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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,801	11/15/2001	Kristian E. Johnsgard	14912.832	5951

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EXAMINER

FASTOVSKY, LEONID M

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 12/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,801

Applicant(s)

JOHNSGARD ET AL.

Examiner

Leonid M Fastovsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-14 and 28-35 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-14, drawn to a system for processing, classified in class 219, subclass 468.1.
 - a. Claims 15-35, drawn to a resistive heater, classified in class 219, subclass 444.1.
2. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as a processing of the substrate. See MPEP § 806.05(d).
3. During a telephone conversation with Mr. M. Murphy on 12/2/03 a provisional election was made without traverse to prosecute the invention of a resistive heater , claims 15-27. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-14 and 28-35 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The abstract of the disclosure is objected to because it contains extraneous words such as "comprising". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 15-17, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Yee et al (GB 1,564,630).

Yee teaches a resistive heater (Fig. 1) comprising a doped ceramic element 1 containing nitrogen, and undoped ceramic material 3 comprising silicon carbide, wherein the coefficient of thermal expansion of the doped and undoped materials is the same as in the applicant invention because the chemical composition is identical.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yee in view of Friese (6,582,669).

Yee teaches substantially the claimed feature, but does not specify the concentration of nitrogen in the doped ceramic heating element. Friese teaches a concentration between 2800 ppm and 1300 ppm. It would have been obvious to one having ordinary skill in the art to use the concentration of nitrogen in the heating element to maintain sufficient density of the ceramic heater, as taught by Friese.

11. Claims 19-21 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee in view of Chen et al (6,646,235).

Yee teaches substantially the claimed features, but does not teach a susceptor and lifting pins. Chen teaches a susceptor 155 and lifting pins 195. It would have been

obvious to one having ordinary skill in the art to use in the Yee apparatus the susceptor and lifting pins of Chen in order to support a substrate (Col. 6, lines 35-40).

12. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee in view of Hierholzer, Jr. et al (4,328,529).

Yee teaches substantially the claimed features, but does not teach that the ceramic heater comprises at least one of an aluminum oxide, boron nitride and silicon nitride, boron, arsenic, antimony and phosphorus. Hierholzer teaches a doped ceramic heater comprising boron, phosphorous, arsenic or antimony (Col. 5, lines 36-49). It would have been obvious to one having ordinary skill in the art to use boron or arsenic or phosphorous for use as a doping material in order to lower the resistivity of the ceramic as taught by Hierholzer, Jr, and thus the heating element, in cross-section, will be able to lie flat.

13. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee in view of Kahn et al (5,502,345).

Yee teaches substantially the claimed features including a thickness of the heater in a range of 0.05 inch, but does not teach a resistivity range. Kahn teaches a ceramic actuator with an inherent heating capability because of its resistivity and current carrying use (Col. 3, lines 45-48), with a first region of lower resistivity in contact with a second region of higher resistivity. It would have been obvious to one having ordinary skill in the art to increase a thickness of the heater from about 0.1 to about 0.3 inch as a matter of design choice, and to set the resistivity of the doped heating element from

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about 2 to about 5 orders of magnitude less than the resistivity of undoped heating element as suggested by Kahn, as a matter of design choice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 703-306-5482. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 703-308-2634. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

lmf


EHUD GARTENBERG
PRIMARY EXAMINER

Leonid M Fastovsky
Examiner
Art Unit 3742